

CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claim 1-12 (previously canceled).

Claim 13 (currently amended): A ~~therapeutic compound of the formula: X-Y-Z, wherein X~~ is comprising:

a therapeutic entity, agent Y is an ~~in vivo cleavable linking entity covalently connecting said therapeutic entity to Z, and Z is ;~~

a chemically reactive ~~group~~ entity for reacting *in vivo* with a reactive functionality on an endogenous vascular or blood component protein so as to form a covalent bond therewith, wherein said reactive functionality is selected from the group consisting of amino, carboxylate, and thiol reactive functionalities-, ; and

an in vivo cleavable linking entity covalently connecting said therapeutic agent to said chemically reactive entity,

said chemically reactive ~~group~~ entity thereby covalently linking *in vivo* said therapeutic ~~entity~~ agent to said protein through formation of said covalent bond, and whereby said linking entity is cleaved after covalent linking of the therapeutic ~~entity~~ agent to the protein, ~~thereby releasing so as to release~~ the therapeutic ~~entity~~ agent.

Claim 14 (currently amended): A ~~therapeutic~~ compound according to claim 13, wherein said therapeutic ~~entity~~ agent is a synthetic organic drug.

Claim 15 (currently amended): A ~~therapeutic~~ compound according to claim 13, wherein said therapeutic ~~entity~~ agent is a peptide.

Claim 16 (currently amended): A ~~therapeutic~~ compound according to claim 13, wherein said linking entity has from 2-30 atoms in a backbone chain.

Claim 17 (currently amended): A ~~therapeutic~~ compound according to claim 13, wherein said linking entity is selected from the group consisting of an oligopeptide, an oligonucleotide, a disulfide, and an organic divalent group which ~~can be~~ is aliphatic, aromatic, alicyclic, heterocyclic or combinations thereof.

Claim 18 (currently amended): A ~~therapeutic~~ compound according to claim 13, wherein said chemically reactive ~~group~~ entity is selected from the group consisting of N-hydroxysuccinimide, carbodiimide anhydride, and N-hydroxysulfosuccinimide.

Claim 19 (currently amended): A ~~therapeutic~~ compound according to claim 13, wherein said chemically reactive ~~group~~ entity is N-hydroxysuccinimide.

Claim 20 (currently amended): A ~~therapeutic~~ compound according to claim 13, wherein said chemically reactive ~~group~~ entity comprises maleimide and said reactive functionality is a thiol group.

Claim 21 (currently amended): A ~~therapeutic~~ compound according to claim 13, wherein said endogenous vascular or blood component protein is long-lived.

Claim 22 (currently amended): A ~~therapeutic~~ compound according to claim 21, wherein said endogenous vascular or blood component protein comprises serum albumin.

Claim 23 (currently amended): A ~~therapeutic~~ compound according to claim 13, wherein said ~~therapeutic compound~~ agent comprises a chemotherapeutic agent, an antibiotic, an antihypertensive agent, an anti-coagulant, an analgesic, a hormone, an immunosuppressive or immunoregulatory agent, an enzyme, a vasoactive drug, an anti-inflammatory drug, an anti-histamine, a cardiovascular drug or an anti-proliferative drug.

Claim 24 (currently amended): A pharmaceutical composition comprising a ~~therapeutic~~ compound according to claim 13 and a physiologically acceptable medium.

Claim 25 (previously presented): A pharmaceutical composition according to claim 24, wherein said physiologically acceptable medium comprises one or more of the following: saline, aqueous glucose, alcohol, deionized water, and phosphate buffered saline, dimethylsulfoxide, and vegetable oil.

Claim 26 (currently amended): A composition consisting essentially of a compound formulated in a physiologically acceptable medium, said compound comprising a therapeutic ~~entity~~ agent, an *in vivo* cleavable linking entity covalently connecting said therapeutic ~~entity~~ agent to a chemically reactive ~~group~~ entity, said chemically reactive ~~group~~ entity being complementary in reactivity to a reactive functionality of an endogenous blood or vascular system protein of a patient, said reactive functionality being selected from the group consisting of amino, carboxylate, and thiol reactive functionalities; wherein said chemically reactive ~~group~~ entity reacts *in vivo* with said reactive functionality to form a covalent bond therewith and whereby said compound covalently links *in vivo* said therapeutic ~~entity~~ agent to said protein.

Claim 27 (currently amended): A composition according to claim 26, wherein said therapeutic ~~entity~~ agent is a synthetic organic drug.

Claim 28 (currently amended): A composition according to claim 26, wherein said therapeutic ~~entity~~ agent is a peptide.

Claim 29 (currently amended): A composition according to claim 26, wherein said chemically reactive ~~group~~ entity is N-hydroxysuccinimide.

Claim 30 (currently amended): A composition according to claim 26, wherein said chemically reactive ~~group~~ entity comprises maleimide.

Claim 31 (currently amended): A composition according to claim 26, wherein said therapeutic ~~entity~~ agent is a synthetic organic drug; said linking entity is from 6 to 15 atoms in length between said therapeutic ~~entity~~ agent and said chemically reactive ~~group~~ entity; and said chemically reactive ~~group~~ entity is N-hydroxysuccinimide, N-hydroxysulfosuccinimide or maleimide.

Claim 32 (currently amended): A composition according to claim 26, wherein said therapeutic ~~entity~~ agent is a synthetic peptide; said linking entity is from 6 to 15 atoms in length between said therapeutic ~~entity~~ agent and said chemically reactive ~~group~~ entity; and said chemically reactive ~~group~~ entity is N-hydroxysuccinimide, N-hydroxysulfosuccinimide, or maleimide.

Claim 33 (previously presented): A method of providing a therapeutic activity to a patient, said method comprising administering to said patient in a therapeutically effective amount a composition according to claim 26.

Claim 34 (currently amended): A ~~therapeutic~~ compound according to claim 13,

wherein said therapeutic ~~entity~~ agent is an antiproliferative drug,

wherein said cleavable linking entity ~~Y~~ includes has about 24 atoms in ~~the~~ a backbone chain,
wherein each of said atoms is independently selected from the group consisting of oxygen, nitrogen,
and carbon atoms, and

wherein said chemically reactive ~~group-Z~~ entity is maleimide.